

# *Research Accomplishments*

— FOR THE —

# ENVIRONMENTAL MANAGEMENT SCIENCE PROGRAM

**1999 Year-End Summary**

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**U.S. Department of Energy  
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## **RESEARCH ACCOMPLISHMENTS FOR THE ENVIRONMENTAL MANAGEMENT SCIENCE PROGRAM**

### **Introduction**

The intent of this document is to provide information concerning the research transition activities of the Environmental Management Science Program (EMSP). Research transitions are measures of how successfully the program has transitioned knowledge gained from research projects to other areas. These measures may be in the form of actual transfers of new knowledge or data gained through research products or processes to other areas within EM, such as Focus Areas and Crosscutting Programs, or may be more general knowledge transfer measures found in similar research programs, such as collaborations, numbers of student researchers, peer reviewed papers and presentations (communication products), or consultations.

The information contained in this document has been gathered from various sources, such as interactions with EMSP staff, proceedings from EMSP workshops and technical conferences, principal investigators, the Project Tracking System, EMSP Project Annual Reports, and literature searches. The information presented is an attempt to capture research transition activities and therefore should not be considered to be a complete or accurate listing. This volume contains the best available data as of December 31, 1999. Where incomplete information was received, efforts are underway to rectify this situation, as well as verify information accuracy.

### **Document Layout**

Research transition activities are addressed in four categories: collaborations, student research, communication products, and research transfers. In addition, there are sections covering topical workshops, news articles, and fact sheets. The research transition activities are listed by project and include project number, title, and the name of the principal investigator.

1. *Collaborations.* This section reports the collaborative effort being undertaken by EMSP projects to further research and to transfer research towards technical maturity. 42 collaborations have been reported. These are further categorized by type of collaboration, as follows:

Type of Collaboration	Number of each type
Consulting - provide advice or technical expertise	19
Joint interaction - researcher/end-user in joint interaction	6
Mission directed - project direction provided by end-user	6
Program interaction - researcher to researcher interaction	10
Unclassified	1

2. *Graduate Students.* One of the two main objectives of the EMSP is to develop a cadre of environmental scientists to meet 21st century clean-up needs. This

section tracks the impact the EMSP is having on increasing the cadre of environmental researchers. The number of Post Doctoral, PhD, Masters, and Undergraduate students are reported by EMSP project. Graduate student researcher's names are noted where provided. As of December 31, 1999, 474 undergraduate, graduate, and post graduate researchers were funded under this program.

3. *Publications and Presentations.* This section provides a list of publications by EMSP project. Journal articles, papers, reports, presentations, posters, and media reports are considered publications for the purposes of this summary. The following table lists the totals for each of these categories.

<b>Type of Publication/Presentation</b>	<b>Number of each type</b>
Journal Articles	329
Other (Encyclopedias, manuscripts)	39
Papers	55
Patent disclosures and applications	4
Posters	17
Presentations	368
Press Releases	5
Proceeding Contributions	98
Reports	35
Submitted for Consideration	133

4. *Research Transfers.* The main objective of EMSP-funded research is to address EM clean-up needs through 2070. This section includes research transfers (i.e., deployments, products, spin-off business, field tests, continuation by others, etc.) by project. Some activities listed in this section may be planned actions and are provided to ensure follow-up contacts are made.

<b>Type of Research Transfer</b>	<b>Number for each type</b>
Commercializations	6
Field Tests	6
Focus Areas & Crosscutting Programs	3
Patents	8
Processes - IPP	1
Products - Unknown	1

